- 1 SHOW CURVE DATA ON EACH SHEET THAT THE CURVE IS ON, SUCH THAT EACH SHEET STANDS ON ITS OWN.
- 2 BREAK OUT QUANTITIES PER INTERSECTION.
- WHENEVER POSSIBLE, WITH A LOT OF DRIVEWAYS, SEWERS OR GUARDRAIL, USE DRIVEWAY SUMMARY TABLES, DRAINAGE SUMMARY TABLES OR GUARDRAIL SUMMARY TABLES. THE TOTALS IN THE TABLES SHOULD BE ENTERED INTO TRANSPORT. DO NOT DUPLICATE QUANTITIES IN TABLES INTO "MAINLINE ROADWAY QUANTITIES THIS SHEET". IF QUANTITIES ARE IN TABLE, NEED TO MATCH EXACT PAY ITEMS.
- SHOW MAINLINE ROADWAY QUANTITIES THIS SHEET IN THE LOWER RIGHT HAND CORNER IF POSSIBLE FOR ALL QUANTITIES NOT BROKEN DOWN IN INDIVIDUAL BREAKOUTS OR QUANTITY BOXES. DO NOT DUPLICATE THE QUANTITIES FOR SEWERS/DRIVEWAYS IN THIS AREA.
- 5 SHOW EXISTING AND PROPOSED DRAINAGE WITH SIZES AND FLOW ARROWS. SHOW FLOW ARROWS IN DITCHES.
- 6 PROPOSED WATERMAIN QUANTITIES MAY BE SHOWN ON SEPARATE WATERMAIN SHEETS FOR CLARITY.
- 7 SHOW ALL EXISTING AND PROPOSED ROW INCLUDING CROSS ROAD ROW.
- 8 SHOW ALL PROPOSED CURB AND GUTTER, DRIVEWAYS, INTERSECTIONS, SIDEWALKS AND SLOPE STAKE LINES.
- 9 SHOW ALL EXISTING UNDERGROUND UTILITIES. LABEL UNDERGROUND GAS AND ELECTRIC WITH

HAZARDOUS OR FLAMMABLE MATERIAL

LABEL UNDERGROUND TELEPHONE, WATER TRANSMISSION LINES AND FIBER OPTICS WITH

CAUTION - CRITICAL UNDERGROUND UTILITY

EX WATER, SEWER, SANITARY SEWER/SANITARY FORCE MAIN ONLY NEED TO BE LABELED WITHOUT FLAGGING OF A CRITICAL UNDERGROUND UTILITY BOX.

- "MAINLINE REMOVAL QUANTITIES THIS SHEET" SHOULD APPEAR IN THE LOWER RIGHT CORNER OF THE SHEET IF POSSIBLE AND SHOULD NEVER INCLUDE PAY ITEMS THAT ARE SHOWN IN OTHER NOTES ON THE SHEET.
- [11] STREET NAMES SHOULD APPEAR INSIDE OF HEAVY BORDER LINES.
- 12 ROUTE AND STATION LIMITS SHOWN HERE.
- $\boxed{13}$  CROSS HATCH OUT REMOVAL ITEMS AND SHOW (R) AND (A) SYMBOLS.
- NUMBER PROPOSED DRAINAGE STRUCTURES. ONCE THE DESIGN IS FINALIZED, NUMBERING DRAINAGE STRUCTURES BEGINNING WITH [] ON THE FIRST PLAN SHEET AND NUMBERING SEQUENTIALLY. ADDITIONAL CATCH BASINS ADDED LATE IN THE DESIGN MAY BE INSERTED, FOR EXAMPLE AS 32A, PLACED NEAR THE CATCH BASIN NUMBERED 32.
- 15 AERIAL ELECTRIC AND CATV MAY BE SHOWN CONNECTING TO POLES. ALWAYS SHOW OVERHEAD HIGH VOLTAGE TRANSMISSION LINES.
- 16 SHOW EROSION CONTROL ITEMS ON PLANS WITH QUANTITIES IN A BOX.
- SHOW ONLY PROP SHOULDERS ON 20 & 40 SCALE PLANS. DO NOT SHOW PROP PAVED SHOULDERS ON 50 OR 100 SCALE PLANS. EXISTING GRAVEL SHOULDERS SHOULD BE SHOWN ON 20, 40 & 50 SCALE PLANS.

## OTHER GUIDELINES:

PLAN SHEETS SHALL INCLUDE, AT A MINIMUM, THE FOLLOWING

- A. CITY LIMITS
- B. TOWNSHIP, RANGE AND SECTION
- C. EXISTING ALIGNMENT DATA:
  - 1. COORDINATES
  - 2. BEARINGS
  - 3. SUPERELEVATION DATA (EXISTING AND PROPOSED)
  - 4. TIES AT CROSSROADS & SECTION LINES
- D. EXISTING PAVEMENT DESCRIPTION INCLUDING WIDTH AND TYPE
- E. HOUSE NUMBERS AND CURRENT BUSINESS NAME ON URBAN PROJECTS
- F. PROPERTY OWNERS NAMES OR HOUSE NUMBERS ON RURAL PROJECTS
- G. EXISTING DRAINAGE, INDICATE SIZE, FLOW AND TYPE OF ALL EXISTING CULVERTS AND SEWERS
- H. PAY ITEMS AND LEADERS TO SPECIFIC WORK TYPES
- I. INCLUDE EXTRA COLUMNS IN THE PAY ITEM AREAS FOR ACT 51 PARTICIPATION OR 100% CITY WORK. IDENTIFY CATEGORY NUMBERS.

## REMOVAL AND CONSTRUCTION SHEETS

- 1 SHOW EXISTING SEWERS AND PIPES AS DASHED LINE CODES AND PROPOSED SEWERS AND PIPES AS SOLID LINE CODES AS PER DRAFTING GUIDES. USE THE DRAINAGE STRUCTURE TUTORIAL UNDER 'MICROSTATION/MDOT/ROAD/DRAINAGE STRUCTURE' TO DRAFT THE CULVERTS, SEWERS, AND DRAINAGE STRUCTURES. LABEL PROPOSED GRADES AS +% OR -% IN THE DIRECTION OF STATIONING.
- 2 SHOW EXISTING GROUND PROFILE AS DASHED LINE AND GROUND POINTS SIDE PROFILES.
- 3 SHOW TOP OF CURB GRADE OR PROFILES TO NEAREST 0.01%.
- 4) SHOW EXISTING AND PROPOSED FLOW LINE ELEVATIONS TO THE NEAREST 0.01 FT.
- 5 SHOW PLAN, DITCH AND SEWER GRADES AS +% OR -% IN THE DIRECTION OF STATIONING.
- 6 SHOW TYPE LINES INDICATING CURB AND GUTTER TYPE, MEDIAN BARRIER, DITCHES WITH DITCH WIDTH FRONT SLOPE AND BACK SLOPE. NOTE: DEPENDENT DITCHES ARE DESCRIBED AS DEPTH X WIDTH ROUND BOTTOM DITCH. DEPENDENT DITCHES LOCATED IN SUPER ELEVATED SECTIONS ARE DESCRIBED AS DEPTH (+ OR SUPER) X WIDTH ROUND BOTTOM DITCH. INDEPENDENT DITCHES ARE DESCRIBED BY INDEPENDENT WIDTH ROUND BOTTOM DITCH AND MUST HAVE A GRADE AND ELEVATION SHOWN ON THE PROFILE.
- 5 SHOW LOCATION OF SUPER ELEVATION INCLUDING TRANSITION AND CROWN RUNOFF LOCATIONS.
- 8 NUMBER PROPOSED DRAINAGE STRUCTURES.
- 9 SHOW EROSION CONTROL ITEMS THAT APPLY ON THE PROFILE SHEET.

## OTHER GUIDELINES:

- A. SHOW VERTICAL PI STATIONS, CURVE LENGTHS, TANGENT GRADES, LOW POINTS, K VALUES.
- B. SHOW ROCK, PEAT, MUCK AND UNDERCUT LIMITS AND TREATMENTS.
- C. SHOW CROSSROAD OR STREET PROFILES, IF PERTINENT.
- D. SHOW ANY TEMPORARY ROADS IN PROJECT LIMITS.
- E. SHOW WATER TABLE ELEVATIONS.
- F. EARTHWORK QUANTITIES ARE SHOWN ON PROFILES.
- G. SHOW EXISTING UNDERGROUND FIELD TILE IF APPLICABLE.
- H. SHOW PROPOSED OR EXISTING BRIDGE PROFILE IF APPLICABLE & UNDERCLEARANCES.
- I. SHOW PROPOSED OR EXISTING BOX/SLAB CULVERT IF APPLICABLE.
- J. EXISTING UNDERGROUND UTILITY INFORMATION SHOULD BE SHOWN ON THE PROFILE IN AREAS OF POTENTIAL CONFLICT WITH PROPOSED UNDERGROUND WORK. ACTUAL OR APPROXIMATE TOP OF WATER MAIN AND TELEPHONE ELEVATIONS SHOULD BE LABELED. APPROXIMATE OR ACTUAL CENTER OF GAS MAIN SHOULD BE LABELED. DRAW EXISTING UTILITY TO SCALE SUCH AS A TELEPHONE DUCT OR OUTSIDE DIMENSIONS OF SEWERS/WATER MAINS ON THE PROFILE ESPECIALLY IN AREAS OF POTENTIAL CONFLICT WITH PROPOSED UNDERGROUND CONSTRUCTION.
- K. SHOW EARTHWORK, SUBBASE, PEAT EXC & SWAMP BACKFILL QUANTITIES ON PROFILE SHEETS. PLACE FOR INFORMATION ONLY THE CYDS OF TOPSOIL STRIPPING. SWAMP BACKFILL IS A LOOSE MEASURE PAY ITEM AND NEEDS INCREASED BY A PERCENTAGE FOR SHRINKAGE. THE METHOD OF PEAT EXC SHOULD BE SHOWN ON THE PLANS AS DEPICTED IN STD PLAN R-103 SERIES. SWAMP BACKFILL AND PEAT EXCAVATION ARE CALCULATED BASED UPON PLOTTING MUCK BORINGS ON THE CROSS SECTIONS AND EXCAVATING PEAT AND BACKFILLING WITH SWAMP BACKFILL AS SHOWN ON STD PLAN R-103 SERIES.













